

-- Task 3 - SQL for Data Analysis

-- 1. SELECT and WHERE

```
SELECT * FROM orders WHERE region = 'West';
```

-- 2. ORDER BY and LIMIT

```
SELECT customer_name, sales FROM orders ORDER BY sales DESC LIMIT 5;
```

-- 3. GROUP BY and COUNT

```
SELECT region, COUNT(*) AS total_orders FROM orders GROUP BY region;
```

-- 4. JOIN

```
SELECT o.order_id, o.customer_name, p.product_name  
FROM orders o  
JOIN products p ON o.product_id = p.product_id;
```

-- 5. Subquery

```
SELECT customer_name, sales FROM orders  
WHERE sales > (SELECT AVG(sales) FROM orders);
```

-- 6. Creating a View

```
CREATE VIEW top_customers AS  
SELECT customer_name, SUM(sales) AS total_sales  
FROM orders  
GROUP BY customer_name  
ORDER BY total_sales DESC  
LIMIT 5;
```

-- 7. Query Optimization with LIMIT and filtering

```
SELECT order_id, product_name, sales  
FROM orders  
WHERE sales > 100  
ORDER BY sales DESC  
LIMIT 10;
```